Hemodialysis and Pain

Hemodiyaliz ve Ağrı

Mehmet Serhan ER[1]
Mehmet EROĞLU[1]
Elif Cihan ALTINEL[2]
Levent ALTINEL[1]

1 Afyon Kocatepe University, Faculty of Medicine, Department of Orthopaedics and Traumatology, Afyonkarahisar, Turkey
2 Afyon Kocatepe University, Atatürk Vocational School of Health Services, Afyonkarahisar, Turkey

ABSTRACT

OBJECTIVE: We aimed to determine the type, frequency, location, intensity and the characteristics of the pain in hemodialysis patients.

MATERIAL and METHODS: Ninety-five hemodialysis patients were investigated using McGill-Melzack pain questionnaire. Location, nature, frequency and intensity of the pain were recorded according to this form. In addition, pain was classified with regard to duration as instant, acute and chronic.

RESULTS: Sixty patients (63.1%) reported a problem with pain, the others (35 patients - 36.8%) reported not to have pain. When considering the relationship of pain with time; 24.1% of the patients had continuous, steady, fixed pain and 58.6% of the patients had rhythmic, periodic, intermittent pain while 17.2% had generalized, momentary, temporary pain. When the pain was evaluated in terms of severity, it was found that 31 patients (52%) had mild and disturbing pain, while 29 patients (48%) had severe or very severe (intolerable) pain. It was also detected that 60 patients had instant pain, 25 had acute pain and 31 had chronic pain.

CONCLUSION: Pain is a common and chronic problem in patients undergoing HD and it is seriously necessary to address treating the pain along with other systemic diseases in order to increase the quality of life of individuals.

KEY WORDS: Hemodialysis, Pain, Quality of life

ÖZ

AMAÇ: Bu çalışmada; diyalize giren son dönem kronik böbrek yetmezlikli hastalarda görülen ağrının tipi, sıklığı, lokalizasyonu, şiddeti ve karakterlerinin belirlenmesi amaçlanmıştır.

GEREÇ ve YÖNTEMLER: Hemodiyaliz tedavisi gören 95 hastanın ağrı şikâyetleri McGill-Melzack ağrı soru formu kullanılarak birebir görüşme yöntemi ile araştırıldı. Bu formla ağrının yeri, özelliği, zamanla ilişkisi (1. devamlı, kararlı, sabit, 2. ritmik, periyodik, aralıklı, 3. genel, anlık, geçici) ve şiddeti (1. hafif, 2. rahatsız edici, 3. şiddetli, 4. çok şiddetli, 5. dayanılmaz) değerlendirildi. Ayrıca ağrı tipleri anlık (son 24 saate), ciddi (3 günden fazla süren işten ve uykudan alıkoyan) ve kronik (3 aydan uzun süren) ağrı olarak sorgulandı.

BULGULAR: Hastaların 60'ı (%63,1) ağrıdan şikayet ederken, 35'inde (%36,8) ağrı şikayeti yoktu. Hastaların % 24,1'inde devamlı, kararlı, sabit ağrı, % 58,6'sında ritmik, periyodik, aralıklı, % 17,2'sinde genel, anlık, geçici ağrı tipine rastlanmıştır. Şiddeti açısından değerlendirildiğinde ise 31 hasta (%52) hafif ve rahatsız edici, 29 hasta (%48) şiddetli ve çok şiddetli ağrı tespit edildi. 60 hastada anlık ağrı, 25 hastada ciddi ağrı ve 31 hastada kronik ağrı olduğu saptandı. Ağrı tiplerinin yaş, beden kitle endeksi ve diyaliz süreleriyle ilişkisi saptanmadı.

SONUÇ: Diyaliz hastalarında ağrı, yaygın ve kronik bir sorun olarak karşımıza çıkmaktadır. Bu hastaların yaşam kalitelerini arttırmak için ağrı da ciddi bir şekilde ele alınmalı ve tedavi edilmelidir.

ANAHTAR SÖZCÜKLER: Hemodiyaliz, Ağrı, Yaşam kalitesi

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Correspondence Address:
Mehmet Serhan ER
Afyon Kocatepe Üniversitesi Tıp Fakültesi, Ortopedi ve Travmatoloji, Afyonkarahisar, Turkey
Phone : +90 505 372 95 19
E-mail : mserhan2005@hotmail.com

INTRODUCTION

Hemodialysis (HD) is widely used in patients with end stage renal disease as a life-sustaining therapy. In these patients, fluid and electrolyte imbalance, disorders of other organs and systems such as skin and hematological problems, nervous, gastrointestinal, cardiovascular, pulmonary, metabolic, endocrine, and musculoskeletal disorders may occur due to the disease itself or dialysis. Although many of these situations may cause pain, musculoskeletal, nervous and vascular system disorders appear as more prominent causes of pain (1). Pain is one of the major factors that impair the quality of life. Therefore, in order to improve the quality of life in patients with end-stage renal disease, pain must be considered as a priority, and then measures should be taken to prevent it.

The purpose of this study was to determine the type, frequency, location, intensity, and the characteristics of the pain in HD patients.

MATERIALS and METHODS

Ninety-five hemodialysis patients at three centers in the province of Afyon were investigated using McGill-Melzack pain questionnaire. It was used to measure pain perception. Location, nature, frequency (1st continuous, steady, fixed, 2nd rhythmic, periodic, intermittent, 3rd general, momentary, temporary) and intensity of the pain (1 mild, 2 disturbing, 3 severe, 4 very severe, 5 intolerable) were recorded according to this form. In addition, pain was classified with regard to duration as instant (in 24 hours), acute (lasting more than 3 days and interrupting work and sleep) and chronic (lasting more than three months). Statistical analyzes were performed with SPSS program using chi-square and Student's t-test ($p < 0.05$ was considered significant).

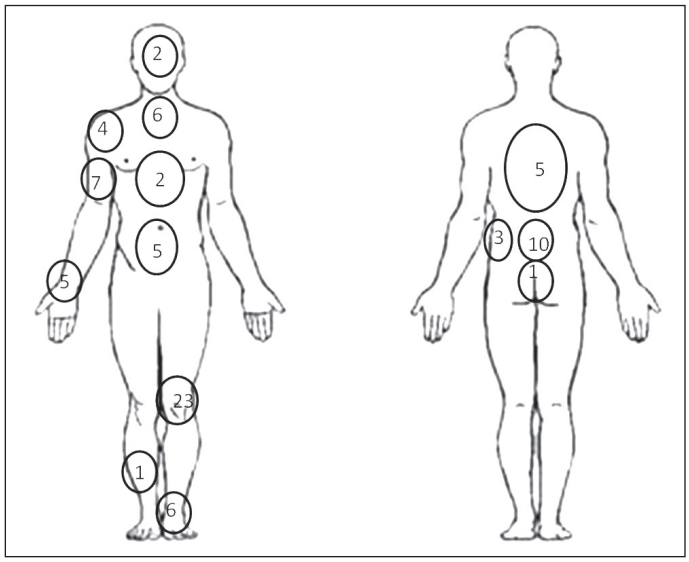

Figure 1A: *Distributions of locations of instant pain.*

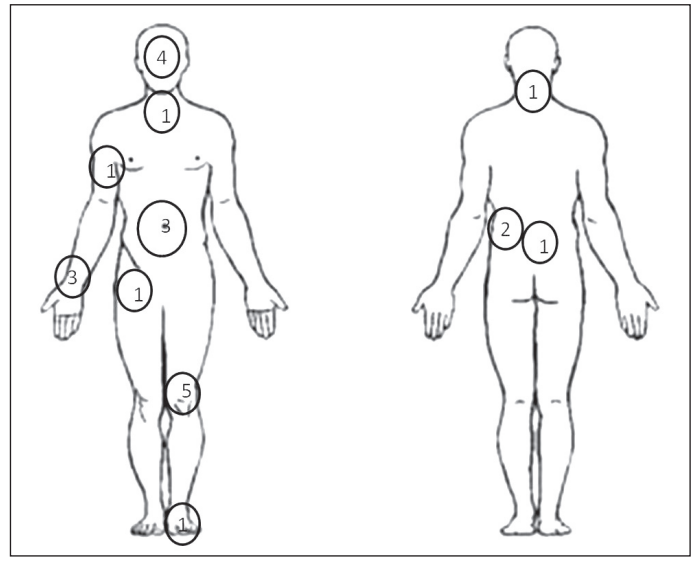

Figure 1B: *Distributions of locations of acute pain.*

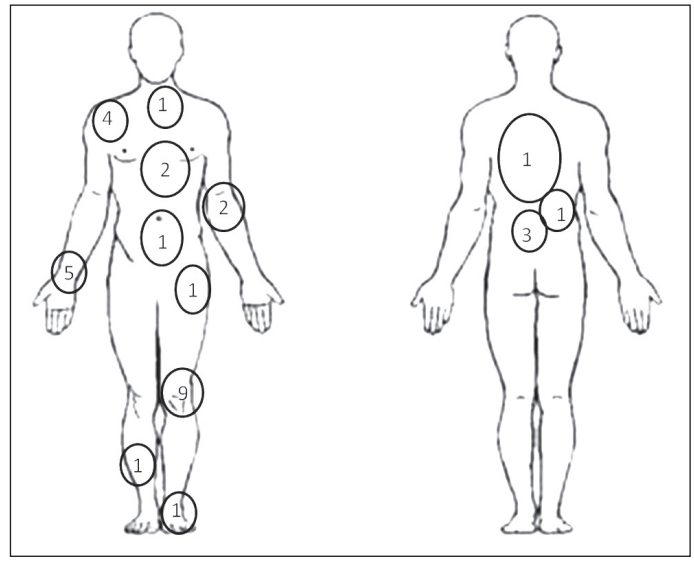

Figure 1C: *Distributions of locations of chronic pain.*

RESULTS

The mean age of the patients was 51.5 years (22-78 years). Mean BMI was found as 24.5±5.4. The mean duration of HD for the 52 female and 43 male patients was 5.2±3.9 years. Among the accompanying diseases, hypertension and diabetes mellitus (DM) were the most common ones (Table I). Fifty-one patients (53.7%) had a history of a previous surgery, with gastrointestinal system (20 operations for bile bladder), cardiovascular system (8) and ophthalmologic operations (6) being the most common ones.

While pain was present in 60 (63.1%) patients, the others (35 patients - 36.8%) reported not to have pain. Distributions of

Table I: The distribution of the major comorbidities of HD patients.

Comorbidities	Disease number (N)	Percent (%)
Cardiovascular diseases	33	34.7
Diabetes mellitus	26	27.4
Respiratory diseases	10	10.5
Hepatitis	2	2.1
Others (familial Mediterranean fever, ankylosing spondylitis, epilepsy)	6	6.3

locations of instant, acute and chronic pains are shown in details in Figure 1 (A-C).

When considering the relationship of pain with time; 24.1% of the patients had continuous, steady, fixed pain and 58.6% of the patients had rhythmic, periodic, intermittent pain while 17.2% had generalized, momentary, temporary pain.

When the pain was evaluated in terms of severity, it was found that 31 patients (52%) had mild and disturbing pain, while 29 patients (48%) had severe or very severe (intolerable) pain (Table II).

Among the factors that increase pain exhausting exercises, walking, motion, immobility, HD procedure and cold were mentioned, whereas the factors mentioned to decrease pain were analgesic drug use, resting, HD procedure, and exposure to hot and cold. Most of the patients reported using analgesic drugs every other day (Table III).

Table II: Severity of pain in HD patients.

Severity of Pain	Number of patients (N)	Percent (%)
Mild	17	28.3
Disturbing	14	23.3
Severe	19	31.7
Very severe	6	10
Intolerable	4	6.7
Total	**60**	**100.0**

Table III: Frequency of use of analgesic in HD patients.

Frequency of use of analgesic	Number of patients (N)	Percent (%)
Every day	19	20
Every 2-3 days	27	28.4
Once a week	5	5.3
Very rarely	13	13.7

Only complaints about musculoskeletal pain were questioned to determine the exact cause of pain and 33 patients (34.7%) reported to be so. No relationships of pain between age, body mass index (BMI) and duration of HD were found (Table IV). Also the distribution of pain between diabetic and non-diabetic patients was evaluated and diabetic patients were found to have less pain which was statistically significant (P=0.011). Types of pain in diabetics and non-diabetics are shown in Table V.

Table IV: Relationships of pain between age, body mass index (BMI) and duration of HD.

	All patients (N: 95)	Patients with pain (N:60) (%63,1)	Patients with no pain (N:35) (%36,8)	P value
Age (year)	51.5±13.8	51.0±14.2	52.3±13.2	0.663
BMI (kg/m^2)	24.5±5.4	24.0±5.1	25.4±6.0	0.290
Duration of HD (year)	5.21±3.89	5.6±3.9	4.9±3.9	0.39

Table V: Types of pain in diabetics and non-diabetics.

	Patients	Instant pain			Acute pain			Chronic pain		
Diabetics	N:26	15+	11-	57.60%	5+	21-	19.20%	8+	18-	30.70%
Non-diabetics	N:69	45+	24-	65.20%	20+	49-	28.90%	23+	46-	33.30%

Table VI: Relationships of types of pain between age, BMI and duration of HD.

Age (year)	All patients (N:95)	Instant pain			Acute pain			Chronic pain		
		60+	35-	p	25+	70-	p	31+	64-	p
	51.5	51	52.3	0.663	48.2	52.7	0.181	52.9	50.8	0.508
BMI (kg/m^2)	24.5	24	25.4	0.29	22.8	25.2	0.181	23.9	24.8	0.508
Duration of HD (year)	5.21	5.6	4.9	0.394	5.7	5	0.458	6.2	4.9	0.134

It was detected that 60 patients had instant pain, 25 had acute pain and 31 had chronic pain. No relationships of types of pain with age, BMI and duration of HD were found (Table VI).

DISCUSSION

Pain or discomfort is an important factor that usually effects the quality of life (QL) of an individual (2), and in randomized controlled studies conducted in different populations it was found that pain decreases the QL (3, 4). Among patients undergoing HD for end-stage renal disease (ESRD), pain is known to cause depression and a significant decrease in QL (5, 6). Accordingly, survival rates of those patients are affected negatively (7, 8).

The reported prevalence of chronic pain in the general population varies between 2% and 45% (1, 9, 10). Whereas it was stated that more than 50% of patients undergoing HD had complaints of pain and in 55% of those the pain is severe and thus the chronic and severe pain causes depression, sleep disorder and even the desire to withdraw from dialysis however it is not struggled adequately to overcome that problem (1, 11).

In the present study, we detected that most of the patients (63.1%) with HD complain about pain and almost half of those (48%) describe their pain as severe or intolerable. Of the 60 patients with complaints of pain, 25 told that their pain was sustained more than 3 days, and interrupted sleep and work (severe pain); 31 (32.6%) said the pain lasted more than 3 months (chronic pain). Forty-six patients (48.4%) said they needed to take analgesic drugs at least once in three days. At the end of the study, complaints of musculoskeletal origin were detected in 33 patients (34.7%) and evaluated as the cause of generalized pain.

Limitations of the present study include not determining the exact source (neuropathic, ischemic, degenerative or related to HD) of the pain adequately and not stating the psychological status of those patients besides their complaints of pain.

This study reveals that pain is a common and chronic problem in patients undergoing HD and it is necessary to address treating the pain along with other systemic diseases in order to increase the quality of life of individuals.

Conflict of Interest

No conflict of interest was declared by the authors.

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